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Application No.: 10/731,937

Inventor(s): Peter M. M. Van Geert et al.

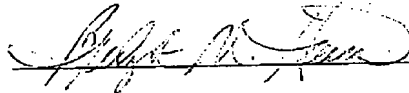
Filed: 12/10/2003

Docket No.: CM1976C

Confirmation No.: 6673

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/731,937
Inventor(s) : Peter Maurits Maria Van Geert et al.
Filed : 12/10/2003
Art Unit : 1734
Examiner : Mayes
Docket No. : CM1976C
Confirmation No. : 6673
Customer No. : 27752
Title : Duplex Holographic Film

RE-SUBMISSION OF APPEAL BRIEF

Commissioner for Patents
VIA FACSIMILE 571/273-8300

This is in response to the Notification of Non-Compliant Appeal Brief in the captioned application.

Submitted herewith is a revised Brief, which maps each limitation of independent Claim 1, as specified in the aforesaid Notice. Please reconsider the Brief and docket it for Appeal.

No fee is believed to be due. In the event a fee is due, it should be charged to the Assignee's Deposit Account 16-2480.

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REAL PARTY IN INTEREST

The real party in interest is The Procter & Gamble Company of Cincinnati, Ohio.

RELATED APPEALS AND INTERFERENCES

There are no known related appeals, interferences, or judicial proceedings.

STATUS OF CLAIMS

Claims 1 and 4 are pending in the present application. Claims 2, 3 and 5-9 have been cancelled. Claims 1 and 4 are appealed.

A complete copy of the appealed claims is set forth in the Claims Appendix attached herein.

STATUS OF AMENDMENTS

No amendment was filed in response to the Office Action of January 8, 2007, made Final.

SUMMARY OF CLAIMED SUBJECT MATTER

The invention relates to a process for making a holographic structure by printing, for example, onto packaging material (page 4, lines 23-32). The process comprises several stages: 1.) an acrylic lacquer layer which is organic solvent-based is applied to a polyethylene terephthalate layer and embossed; 2.) aluminum is layered onto said embossed layer; 3.) organic solvent-based ink would normally then be used for printing directly on the resulting aluminized/embossed layer. As discussed in the specification (page 2, lines 14-17 and page 4, lines 7-11), the problem arises with the printing step. Appellants have discovered that organic solvent from the ink can pass through unsuspected pinholes in the aluminum layer and can deleteriously interact with the organic solvent-based lacquer layer. In order to solve this heretofore unreported problem in the hologram printing art, Appellants apply a water solvent-based acrylic primer on the aluminum layer so that the integrity of the underlying lacquer layer is preserved from disruption by the ink's solvent. In addition, specific solvents are used in the white (ethylacetate) and colored (ethanol) inks used in the printing. Using the two different ink

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solvents avoids dissolution of the first ink when the second ink is applied (page 5, lines 3-5).

The embodiment of Claim 1 is directed to a method for making a holographic structure (specification page 3, lines 14-15) that employs several steps. A pattern is produced (page 3, line 24) on an embossable layer that is specified in Claim 1 to comprise polyethylene terephthalate film (page 2, line 6) and an acrylic lacquer applied on said film (page 4, line 24) from an organic solvent selected from toluene, butyl acetate and ketones (page 4, lines 25). The patterned (embossed) layer provides the holographic effect (page 3, line 24). An aluminum layer is applied to the embossed layer (page 4, lines 26-29), and has pin-holes (page 4, line 9). A primer that is specified in Claim 1 to comprise acrylic compounds (page 4, lines 27-28) and is water solvent based (page 4, lines 27-28) is applied onto the aluminum layer (page 4, lines 26-28), a printing ink layer is then applied onto the primer layer (page 4, line 32). Different from the primer layer, Claim 1 specifies that the printing ink layer is organic solvent based (page 5, line 4) and comprises a colored ink having ethanol as its organic solvent (page 5, lines 2-3) and a white ink having ethylacetate as its organic solvent (page 5, line 2). Claim 1 further specifies that the printing layer and the aluminum layer are solely separated by the primer (page 2, line 31-32). This prevents migration of the organic solvents from the ink(s) into the embossed acrylic lacquer (page 3, lines 4-6).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The rejection of Claims 1 and 4 under 35 USC 103 over the assertedly "admitted" prior art in view of the combination of WO 93/08084, JP 60-28459 Abstract, US 5,200,253, US 5,658,968 and US 4,571,363.

ARGUMENTS

Claims 1 and 4 are patentable over the cited combination of documents because the pin-hole/solvent migration/dissolution problem discovered and successfully addressed by Appellants is not suggested in the art. In this regard, the Examiner's attention had been directed to MPEP 2141.02, noting that the discovery of a problem must be considered as part of the "subject matter as a whole" test under §103. In response, the

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Examiner stated: "By providing the aluminum layer on the embossed layer by vapor deposition or sputtering, as taught by WO '084 as the methods used to apply an aluminum layer for packaging, an aluminum layer having pinholes is obviously formed." (Office Action 7/20/06 at page 4).

It is respectfully submitted that this assumes facts not in evidence with respect to the assertedly "obvious" pinhole formation and fairly characterizes the Examiner's overall position with regard to the invention. Moreover, to even assume pinholes might be present does not suggest the problem of solvent migration/ink dissolution, much less the solution to such problem in the manner of the present invention. In this regard, Appellants further note *In re Bisley*: "The discovery of a problem calling for an improvement is often a very essential element in an invention correcting such a problem; and though the problem, once realized, may be solved by use of old and known elements, this does not necessarily negative invention." 197 F.2d 355, 94 USPQ 80, 86-87 (C.C.P.A. 1952).

Nonetheless, beginning with the unsupported premise that pinholes are "obviously" formed in the aluminum layer, the Examiner goes on to conclude that (Office Action of 1/08/07, page 8): "With respect to the discovered aluminum layer penetration problem and using water-based primer, it is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by Applicant. Applicant may have found that direct printing solvent-based ink onto an aluminum layer applied by vaporisation leads to dissolution of a solvent-based lacquer and uses a water-based primer to prevent the dissolution. However, the use of primer on an aluminum layer of packaging and to which ink and a protective layer are applied is suggested by the '253 patent for insuring better adhesion. While primer is suggested for a different reason, the use of a primer on an aluminum layer of packaging and onto which is applied printing is the same as what Applicant has done. Applicant cannot rely on the discovery of a problem for patentability if the subject matter as a whole suggests to do what Applicant has done, although for a different reason."

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Succinctly stated, the Examiner's position appears to be that Appellants might have done what they did for some unstated reason and, thus, would have inherently solved the problem that was not known to exist. To follow the Examiner's logic, one would first have to assume that: Pinholes are present; that pinholes might cause a problem; that the problem might be solvent migration from the ink; that such solvent migration could cause a disruption of the underlying layer; and that the problem is of sufficient magnitude that it needs correction. And, only then might the means of correction be established, but they would be obvious! It is respectfully submitted that this is not the state of the law. "The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art." *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000).

The Examiner seeks to buttress his position by the combination of cited documents and "admitted" prior art, as follows.

The Examiner asserts that the "admitted" prior art discloses that a typical holographic film structure for packaging comprises a solvent based lacquer applied to a polyester (PET) film, the lacquer embossed, a metallic layer, typically aluminum, applied to the embossed lacquer, the polyester film laminated to other films and the structure printed. (Office Action 1/08/07 at page 2.) Also, US 5,658,968 is cited by the Examiner as assertedly teaching that printers and packagers prefer water-borne primers. (Office Action) 1/08/07 at page 4).

With regard to the state of the assertedly "admitted" art, it would appear to be relevant to consider the cited US 5,658,968 patent. Indeed, it is respectfully submitted that this patent can be fairly characterized as teaching away from the present invention. While the Examiner has cited various passages in support of the rejections, it is noted that still other teachings from this patent are relevant and must also be considered.

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At column 1, lines 27-30, US 5,658,968 patent teaches, "in addition, solvent-borne flexible packaging inks are generally not receptive to water-borne primers or adhesives."

Again, at column 1, lines 43-50, the patent teaches, "A unique problem faced by solvent-borne flexible packaging inks is that they are ordinarily not receptive to water-borne primers and adhesives, which printers now prefer. It was necessary to use an ink/primer/adhesive system which was either entirely solvent-borne or water-borne. This has prevented the widespread use of solvent-born flexible packaging inks in conjunction with water-borne primers and adhesives."

In sharp contrast to these teachings Appellants herein have discovered that a water based primer comprising acrylic compounds can be used with solvent based inks comprising ethanol or ethyl acetate solvents, all as specified in the claims.

It is submitted that US 5,658,968 not only does not fairly suggest the aforesaid primer/ink combination, but also constitutes a fair summary of the art that would dissuade the skilled practitioner from making such combination, absent the special inks taught in that patent to solve the problem. Said another way, those patentees assertedly solved their problem with a special ink. The Appellants solve their different problem using a selected water based primer (acrylics) with selected solvent based inks (ethanol/ethyl acetate).

WO 93/08084 is cited by the Examiner as assertedly teaching the application of aluminum by sputtering and the protection of printing by a layer of varnish. (Office Action 1/08/07 at page 3; of course, varnish is solvent-based.)

WO 93/08084, on its face, does relate to a Packaging Material With Holographic Pattern. At page 3, lines 11-16, film 16 of metal is deposited and printing is applied over the film 16. Likewise, at page 3, lines 25-27, a sheet is "given an aluminum film 26," and "may then be printed over the film 26." Alternatively, at page 3, lines 30-32 a "separate material" 20a can have a priming coating 22a that is printed over, and then the "separate material" requires adhesive 23a for bonding to aluminum film 26. Or, (page 3, line 35) the printing may be applied to film 26 (the aluminum) before bonding takes place. In yet another embodiment of WO 93/08084 (page 4, lines 6-8), aluminum film 36 is applied and the sheet material is then printed over the film 36. In still another embodiment (page

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4, lines 13-17) an acrylic primer 42 to which an acrylic solvent-based thermoplastic layer is applied. Layer 44 is embossed and “then receives and aluminum film 46 . . . the material then may be printed . . .”

In contrast to the foregoing wherein the printing is done, mainly, directly on the aluminum layer, the process herein employs a primer layer that separates the ink layer from the metallic layer. Unlike the “alternative” suggested at page 3, lines 30-32 of WO 93/08084, the printing layer and the metallic layer herein are solely separated by the primer. In other words, there is no “separate material”, nor any need for an adhesive to bond such separate material to the metallic layer, as in this document.

In short, it is submitted that WO 93/08084 does not teach or suggest separation of the printing layer from the metallic layer by the sole means of the primer. Instead, the patentees either print directly onto the aluminum, or print onto a separate material – in particular, a primer-coated “transparent polypropylene layer” as specifically disclosed at page 3, line 31.

Assuming that WO 93/08084 accurately reflects the state of the art, it is submitted that it is in no way suggestive of the present process, as defined by the claims. Indeed, to lay-down a metallic layer and to print on said metallic layer without separating said metallic layer from the printing ink layer by means of the primer gives rise to the very problem discovered and solved by the present invention.

Moreover, to suggest the combination of WO 93/08084 and US 5,658,968 to solve a problem not disclosed in either document constitutes impermissible hindsight. WO 93 teaches printing directly onto the metal layer (or, the alternate sheet). US ‘968 teaches a “unique” ink formulation to solve the “blocking” (stickiness) problem, but does not relate to holographic material, nor suggests any printing problems associated therewith. Absent some suggestion that the two documents are related and are directed to the present problem, it is submitted that there is no reason to combine said documents, other than hindsight.

In this regard, attention is directed to *In re Shuman* 361 F. 2d 1008, 1012, 150 USPQ 54, 57 (CCPA, 1966), which states: “It is impermissible to first ascertain factually what appellants did and then view the prior art in such a manner as to select from the

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random facts of that art only those which may be modified and then utilized to reconstruct appellant's invention from such prior art." As also noted in *ACS Hospital System, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577 & n. 14, 221 USPQ 929, 933 & n. 14 (F. Cir. 1984), "When [as in the instant case] prior art references require selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself." [Cited in *Interconnect Planning Corp. v. Feil*, 227 USPQ 543, 551 (CAFC, 1985)]

JP 62-28459 Abstract is cited by the Examiner merely as teaching various solvents for acrylic lacquer and adds nothing to the combination of documents with regard to the overall invention as claimed herein.

US 5,200,253 is cited by the Examiner as assertedly teaching a primer layer of lacquer between the reflecting metal layer and the protective layer (varnish layer) to insure better adhesion. Printing may be provided on the surface of the varnish layer. (Office Action 1/08/07 at page 3.)

The US 5,200,253 patent squares with the teachings of US 5,658,968 with respect to the state of the art. The "protective layer" disclosed at column 18, line 8, is said to be usually made of a cellulosic material, "... but if printing or other processing is to be done on the surface of the protective layer 116, it may be formed of a poly(vinylchloride-co-vinyl acetate) material." Here, again, '253 teaches that there are special problems when a coating is to be printed. The cellulose (presumably, water-based) are not then used. Therefore, combining US 5,200,253 and US 5,658,968 amounts to teaching printing on solvent based primers (lacquers), which, when using solvent based inks, is the exact opposite of the present invention. Accordingly, their combination with the other cited documents would still not arrive at the present invention.

US 4,571,363 is cited by the Examiner as assertedly teaching that a primer for such use as a packaging material for improved adhesion to organic solvent based inks comprises an aqueous dispersion of acrylic component and acrylic comonomer. (Office Action 1/08/07 at page 4.)

US 4,571,363 adds nothing to the foregoing combination of documents, except to disclose the asserted superiority of PET prior coated with crosslinked acrylic copolymer

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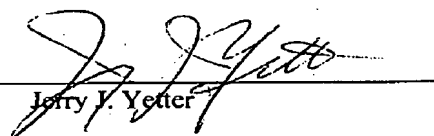
comprising a cross-linkable co-monomer. (Column 2, lines 20-23.) Again, the relevance of this teaching to the present invention is tenuous. Nothing therein relates to the problems associated with hologram formation, much less to the present solution. Printing on a water-based primer-coated, pin-holed aluminum is simply not suggested, in the manner of the present invention.

SUMMARY

It seems undisputed that the problem identified and solved by the Appellants herein, and in the manner disclosed and claimed, is not fairly suggested by the cited combination of art. Indeed, some of the cited documents teach away from Appellants' solution to the problem. Others, arguably, might-or-might-not provide different solutions, but that is irrelevant to the present invention. Still others merely comprise listings of various ingredients which could be used herein, but only after the inventive aspects had been conceived by the Appellants. In short, it is submitted that the rejection over the cited combination of documents ignores the requirements of MPEP 2141.02 and is likewise not supported under §103 for the reasons discussed above. The Board's reversal of the rejections of Claims 1 and 4 is therefore requested.

Respectfully submitted,

THE PROCTER & GAMBLE COMPANY


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CLAIMS APPENDIX

1. (Rejected) A process of making a holographic structure comprising:
 - producing a pattern on an organic solvent based embossable layer to form an embossed layer exhibiting a holographic effect;
 - applying an aluminum layer onto said embossed layer, said aluminum layer having pin-holes; and
 - applying a primer and a printing ink layer onto said aluminum layer such that said printing layer and said aluminum layer are solely separated by said primer,
 - wherein said embossable layer comprises a polyethylene terephthalate film and an acrylic lacquer applied on said film from an organic solvent selected from the group consisting of toluene, butyl acetate and ketones,
 - wherein said primer comprises acrylic compounds and is water solvent based and
 - wherein said printing ink layer is organic solvent based, and said ink layer comprises a colored ink and a white ink, said colored ink comprising ethanol as said organic solvent and said white ink comprising ethylacetate as said organic solvent, and
 - wherein said water solvent based primer prevents solvent from said organic solvent based ink from migrating through said aluminum layer to dissolve said acrylic lacquer on said polyethylene terephthalate film.
- 2 - 3. (Cancelled)
4. (Rejected) The process of Claim 1 further comprising the step of laminating said film to a thermoplastic film.
- 5 - 9. (Cancelled)

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EVIDENCE APPENDIX

NONE

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RELATED PROCEEDINGS APPENDIX

NONE